IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS EASTERN DIVISION

CHRISTINE STANLEY, individually and as)	
personal representative of the estate of PETER)	
STANLEY,)	
)	
Plaintiffs,)	No. 12 C 06073
)	
v.)	Judge John J. Tharp, Jr.
)	
AMEREN ILLINOIS CO., MIDAMERICAN)	
ENERGY CO., SARGENT & LUNDY LLC,)	
and EECI SERVICES INC.,)	
)	
Defendants.)	

MEMORANDUM OPINION AND ORDER

Peter Stanley, a boiler engineer who worked at a number of Midwestern power plants throughout the 1960s, died of mesothelioma on March 9, 2013. This lawsuit, which he filed with his wife after his diagnosis but before his death, seeks damages in negligence¹ for his exposure to asbestos dust and fibers while on the job. Two of the remaining defendants—Ameren and MidAmerican—currently own power plants at which Peter Stanley claims he was exposed; a third, EECI, was the general contractor during the construction of one of MidAmerican's plants; the fourth, Sargent & Lundy, designed two of the plants. These four defendants all move for summary judgment. As explained in the following opinion, the Court grants summary judgment in favor of all four defendants.

¹ Stanley's product liability claim is no longer part of the case the plaintiffs having voluntarily dismissed their claims as to the only named defendant to that count, Brand Insulation. *See* Stipulation, Dkt. # 201.

FACTS

Peter Stanley was a boiler startup engineer, or boiler field engineer, employed from 1961 to 1967 by Babcock & Wilcox in its Chicago District, which comprises all or part of several Midwestern states. During that time period, Stanley worked commissioning various types of boilers on-site at many power plants. In May 2012, Stanley was diagnosed with malignant mesothelioma, an incurable cancer that is caused by exposure to asbestos. Sadly, he died less than a year later. In addition to prosecuting Peter's claims on behalf of his estate, Christine Stanley brings her own claim for loss of consortium. In this opinion, the Court will refer to her as "Plaintiff," in her dual capacity, and to Peter Stanley as "Stanley."

Before recounting the defendant-specific facts, the Court notes that at this stage there is no factual dispute about whether Stanley was exposed to asbestos dust and fibers while working at the defendants' plants. Whether the amount and duration of the exposure at any of the respective plants was sufficient to be a legal cause of Stanley's cancer, however, is very much in dispute, although only MidAmerican disputes causation at the summary judgment stage. Therefore, although Plaintiff's statement of additional material facts contains many facts relating to dusty conditions at the plants and Stanley's exposure to asbestos, much of that information is not material to the defendants' primary arguments. For that reason, the Court's factual summary largely omits the details of Stanley's asbestos exposure, except as relevant for background.

A. Coffeen Unit 1: Defendant Ameren²

Defendant Ameren Illinois Company ("Ameren"), formerly known as Central Illinois Public Service Company ("CIPS"), is a power company. Peter Stanley worked on the initial construction of Unit 1 at the CIPS's Coffeen powerhouse in 1965 and 1966. Sargent & Lundy, an architecture and engineering firm (and co-defendant) was hired to design and provide construction specifications for the plant and to provide "field supervision and expediting of material and equipment."

CIPS contracted with Babcock & Wilcox to design, develop, and build a steam generating boiler for Coffeen Unit 1. CIPS's contracts with Babcock & Wilcox are dated May 17, 1962, and October 1, 1963. The contracts provide that Babcock & Wilcox was "an independent contractor and not an agent or employee" of CIPS. They further provide that Babcock & Willis was to furnish all of its own labor, materials, and equipment related to the boiler, though CIPS would provide scaffolding, hoists, and other riggings and tools. CIPS had the right to inspect and test, and accept, reject, or change the work covered by the contract.

CIPS did not directly supervise Peter Stanley's work as a boiler engineer during the construction of Coffeen Unit 1. According to Stanley, however, CIPS was "in control of" the construction project because "they are the ones that issued the purchase order for the contract" and there were not "any other people on that site clearly in charge." Safety issues were important

² To the extent that Ameren "disputes" any of the facts set forth here, its dispute is ineffectual to the extent it does not support its stated disagreement with contrary evidence in the record. *See, e.g.*, Rule 56.1 Reply, Dkt. 299 at ¶ 23. Furthermore, Ameren's reply statements frequently argue at length the relevance or materiality the plaintiff's fact statements; although these are legal arguments better suited for a brief, Ameren is correct in some—though not all—instances. Consistent with the federal and local rules, the Court will rely only on statements of fact that are both material and supported by the record. *See* Fed. R. Civ. P. 56(e); L.R. 56.1; *see also Davis v. Elec. Ins. Trs.*, 519 F. Supp. 2d 834, 836 (N.D.Ill.2007); *Lawrence v. Bd. of Election Comm'rs*, 524 F. Supp. 2d 1011, 1014 (N.D.Ill.2007).

to CIPS, and CIPS wanted to be informed of any safety issues created or observed by contractors on the site. CIPS employees were present at the site throughout the construction of the plant. CIPS maintained offices in a trailer that it shared with Sargent & Lundy employees. CIPS conducted weekly meetings with supervisors of the subcontractors. The CIPS plant supervisor, John Kramer, and assistant plant supervisors, who did not have responsibilities related to construction, regularly walked through the job site during construction to observe. The Babcock & Wilcox boiler had to be chemically cleaned before use; the chemical cleaning contractor held a pre-cleaning meeting with both Babcock & Wilcox and CIPS. Kramer recommended that levels of certain chemical (hydrazine) be adjusted, Babcock & Wilcox wanted to increase the level of acid used to clean excessive iron dioxide from the boiler, it discussed the acid levels with another CIPS supervisor.

B. Coffeen Unit 1 and Kincaid Unit 1: Defendant Sargent & Lundy

Defendant Sargent & Lundy LLC is an engineering firm that provides design consulting and engineering services primarily for the electric power industry. Sargent & Lundy is not a construction contractor and does not supply components for the power plants that it designs. Sargent & Lundy designed and provided construction specifications for Coffeen Unit 1, pursuant to a contract with CIPS. Unit 1 was designed as a brand new structure. Baldwin-Ehret-Hill, Inc. provided and installed the thermal insulation at Coffeen Unit 1, pursuant to a 1964 contract with CIPS.

Sargent & Lundy also designed the Kincaid power plant (owned by former defendant Commonwealth Edison), another plant at which Peter Stanley worked during its initial construction. Sargent & Lundy performed "certain engineering and design services" in connection with the original construction of Kincaid Unit 1 between 1963 and 1967. Armstrong

Contracting and Supply Corporation provided and installed the thermal insulation for Kincaid Unit 1. Peter Stanley worked at the Kincaid construction site in 1966 and 1967.

C. DPS-2 and Neal-1 Plants: Defendant MidAmerican

Defendant MidAmerican Energy Company ("MidAmerican") is the successor to Iowa Power and Light Company, owner of Des Moines Power Station Unit 2 ("DPS-2"), and Iowa Public Service Company, owner of George Neal Plant Unit 1 ("Neal-1"). At DPS-2, Babcock & Wilcox erected a new industrial boiler that had been constructed to its specifications by Power Service Corporation. Stanley supervised the commissioning, or start-up, of the boiler, during parts of 1963 and 1964; the erection of the boiler was nearly complete before he began his work. While working at DPS-2, Stanley was employed by Babcock & Wilcox, which controlled his work orders and schedule, paid him, and provided all necessary tools and materials for his work. The engineering consulting firm Black & Veatch was the general contractor for the plant's construction, and Iowa Power & Light employees did not work on the construction or supervise or instruct Stanley in his work. According to Stanley, however, IPL retained "control" over the project, but he provided no further evidentiary detail to support that opinion. At DPS-2, Stanley never saw anyone take airborne asbestos samples or segregate the area where asbestos work was being performed.

At the Neal-1 site, Peter Stanley worked on commissioning a new boiler; most of the work took place in four months in 1964, with a few days of work in 1963 and 1965. Babcock & Wilcox supplied the boiler and supervised its erection. The plant's designer and general contractor, Ebasco Services, Inc., issued the specifications for the boiler, and its employees erected it under Babcock & Wilcox's supervision. Babcock & Wilcox supervised and controlled Peter Stanley's work, paid him, and supplied the necessary tools. According to Stanley's

coworker Richard Fockler, IPS was "in charge" of the job site, and employees of IPS were there throughout construction. IPS did not provide any instruction on how to do the work, but IPS employees would tell Babcock & Wilcox when it could run certain tests and how to "integrate" their work "with other suppliers." At the site, no effort was made to segregate workers from the asbestos dust created by the cutting and installation of thermal insulation. MidAmerican's corporate representative testified that Ebasco was "responsible for the construction" of Neal-1 and was in charge of "safety in the workplace." The contract between IPS and Ebasco is not in the record. The Final Construction Reports, prepared by Ebasco, are part of the record.

D. Neal-1 Plant: Defendant Ebasco

Defendant EECI Services is the successor to Ebasco Services, Inc. Ebasco oversaw the construction of the Neal-1 plant and hired numerous contractors, including Babcock & Wilcox, for the required work. According to the Final Construction Report, the project "was under the general control of a Construction Manager . . . who . . . "exercised general supervision of field construction." Among the Ebasco personnel on-site for "field construction supervision" was a construction superintendent, who "assumed complete responsibility for field engineering and supervision of all construction operations." The report documents a safety program that included weekly safety meetings presided over by the construction superintendent, with the subcontractors' supervisors or foremen attending.

Subcontractor Owens-Corning furnished and installed the thermal insulation at the plant. Peter Stanley arrived at Neal-1 after the boiler had been assembled, and he worked a total of 128 days at the Neal-1 plant. He primarily conducted tests on the boiler, and during his stint at Neal-1 from January to April 1964, he observed workers installing insulation. Babcock & Wilcox specified that the boiler and its auxiliary piping be insulated to function properly.

Stanley's co-worker Richard Fockler testified that at Neal-1, IPS employees, including plant engineer Russell Christianson, were always "on the job." He stated that IPS never held safety meetings for the workers on the site, never talked to workers about asbestos exposure, and never took steps to "control" asbestos dust or "keep it down." According to Fockler, "the folks from Iowa Public Service were in charge of the job site, and they had contracted with a consulting firm that was assisting them with doing that."

* * *

Throughout his employment with Babcock & Wilcox in the 1960s, Peter Stanley visited many power plants, and all of the boilers used in those plants had the same type of calcium silicate thermal insulation. It is typically cut with a saw in the field before installation, producing dust. The thermal insulation on piping systems and equipment at power plants wears out over time and needs to be replaced occasionally. Thermal insulation serves several purposes, including protecting power plant workers from burns; protecting equipment from exposure to very high temperatures; minimizing heat loss for efficient operation; and decreasing the operating costs of the plant. It is not necessary to the processes that create electricity, but it is required for efficiency and safety in the operation of a power plant.

During the construction phase of a power plant, Babcock & Wilcox was typically responsible for certain components within the plant that were located between the boiler terminals. However, Stanley's work routinely required him to walk through the entire plants and at times to work in other areas of the plants. Generally, when Stanley was at a plant to commission a boiler, up to 80% of insulation external to the boilers was being installed during the same time period. Miles of piping would be insulated while he was on site.

DISCUSSION

Summary judgment is appropriate only when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a); *O'Leary v. Accretive Health, Inc.*, 657 F.3d 625, 630 (7th Cir. 2011). In assessing whether the record entitles the defendants to judgment as a matter of law, the Court views the facts in the light most favorable to the plaintiff, resolving all evidentiary conflicts in her favor and according her the benefit of all reasonable inferences that may be drawn. *See O'Leary*, 657 F.3d at 630.

A federal court exercising jurisdiction based on diversity of citizenship applies state substantive law. *Malen v. MTD Products, Inc.*, 628 F.3d 296, 303 (7th Cir. 2010). In this case, there is no dispute that Illinois law applies to the claims against Ameren and Sargent & Lundy, while Iowa law applies to claims against MidAmerican and EECI. All of Stanley's claims against these defendants sound in negligence. The defendants make several arguments in favor of summary judgment. The Court takes them in turn.

I. Duty of Care

Three of the four defendants—Ameren, EECI, and MidAmerican—argue that they cannot be held liable in negligence because they did not owe any duty to Stanley. Plaintiff, on the other hand, argues that there are factual issues regarding these defendants' control and supervision of Stanley's work, which preclude summary judgment. Under both Illinois and Iowa law, the existence of a duty is a legal question that can be decided by a court on summary judgment. *Choate v. Indiana Harbor Belt R.R. Co.*, 980 N.E.2d 58, 64 (Ill. 2012); *Stotts v. Eveleth*, 688 N.W.2d 803, 807 (Ia. 2004). "[U]nless the plaintiff can demonstrate that a duty is owed, namely, that she and the defendant stood in such a relationship that the law imposes an obligation on the

defendant to act reasonably for her protection, there can be no negligence [liability] imposed upon the defendant." *Gregory v. Beazer East*, 892 N.E.2d 563, 572 (Ill. App. Ct. 2008).

A. Ameren

1. Retained Control

Plaintiff first seeks to impose a duty on Ameren, as the employer of independent contractors, under the "retained control" doctrine. As a general rule, the employer of an independent contractor is not liable for the acts or omissions of the independent contractor, but an employer who retains control of any part of the relevant work will be liable for injuries resulting from his failure to exercise his right of control with reasonable care. *See Bokodi v. Foster Wheeler Robbins, Inc.*, 728 N.E.2d 726, 732 (Ill. App. Ct. 2000); Restatement (Second) of Torts § 414 ("One who entrusts work to an independent contractor, but who retains the control of any part of the work, is subject to liability for physical harm to others for whose safety the employer owes a duty to exercise reasonable care, which is caused by his failure to exercise his control with reasonable care."). Thus, the existence of a duty is governed by whether Ameren retained control over the work done by contractors in constructing Coffeen Unit 1. This is a fact-driven issue, but "whether the amount of control retained has triggered potential liability may be decided as a matter of law where the evidence presented is insufficient to create a factual question." *Bokodi*, 728 N.E. 2d at 732.

Ameren contends that, as a matter of law, Plaintiff failed to marshal sufficient evidence to support the existence of a duty. According to Ameren, the responsibility for Stanley's safety at the jobsite was solely in the hands of Babcock & Wilcox, and Ameren retained no control. Further, Ameren contends that even if it had some general authority over the contractors, it did not have the slightest control over the manner in which the contractors' work was performed.

Comment (c) to § 414 of the Restatement explains:

In order for the rule stated in this Section to apply, the employer must have retained at least some degree of control over the manner in which the work is done. It is not enough that he has merely a general right to order the work stopped or resumed, to inspect its progress or to receive reports, to make suggestions or recommendations which need not necessarily be followed, or to prescribe alterations and deviations. Such a general right is usually reserved to employers, but it does not mean that the contractor is controlled as to his methods of work, or as to operative detail. There must be such a retention of a right of supervision that the contractor is not entirely free to do the work in his own way.

In other words, the owner or general contractor must control not just the ends, but the means. *Fris v. Personal Products Co.*, 627 N.E.2d 1265, 1270 (Ill. App. Ct. 1994) (explaining that general contractor's retention of "the right to inspect the work done and order changes to the specifications and plans" and to "make sure safety precautions were observed, and that the work was done in a safe manner" does not show retention of "any control over the incidental aspects" of the subcontractors work that gives rise to a duty).

To decipher whether an employer retained control over an independent contractor, courts look to the contracts that establish the relationship. "The best indicator of whether a contractor has retained control over the subcontractor's work is the parties' contract, if one exists." *Joyce v. Mastri*, 861 N.E.2d 1102, 1110 (III. App. Ct. 2007). However, the contractual language is not dispositive if the facts show that in practice the employer nevertheless exercised control. *See Bokodi*, 728 N.E.2d at 735 (duty existed because "despite defendants' statement in the agreement that the subcontractors were to be in control of their work, defendants went to great lengths to control the safety standards at the work site"); *Aguirre v. Turner Const. Co.*, 501 F.3d 825, 831 (7th Cir. 2007).

In her argument, Plaintiff does not mention CIPS's contract with Babcock & Wilcox.

Mem., Dkt # 280 at 3-7. The Court does not find the contract conclusive, but it is not irrelevant.

The contract requires Babcock & Wilcox to "furnish" the "labor, methods, material, equipment, and transportation or other facilities as may be necessary to complete the contract" and to have on site at all times a "competent superintendent" to "supervise the work." This is a broad delegation, and it establishes that Babcock & Wilcox was principally responsible for the manner in which it conducted its work, rather than establishing a role for CIPS in overseeing the "method" or the "operative detail" of the work. The contract does not contain any provision delegating general responsibility for safety on the jobsite, although it does require Babcock & Wilcox to maintain its own tools, materials, and equipment in such condition that the work could be "carried on with safety to the employees" of both CIPS and Babcock & Wilcox. The contract suggests that, as to Babcock & Wilcox, CIPS exercised the kind of "general" control—to order the work stopped or resumed, to inspect its progress or to receive reports, to make suggestions or recommendations, or to prescribe alterations and deviations—that is "usually reserved to employers" of independent contractors. See Restatement 2d Torts § 414, cmt (c). But there is nothing in the contract from which it can be concluded that CIPS controlled the *manner* in which Babcock & Wilcox performed its work or that Babcock & Wilcox was circumscribed from doing the work in its own way.

In any event, Stanley's injuries are not alleged to have been caused by the work Babcock & Wilcox, which did not fabricate or install the asbestos-containing insulation used on the boiler and throughout the jobsite, although it did have responsibility under the contract for *selecting* "suitable material" for insulating its own equipment. If Ameren is liable under the retention-of-control doctrine, it would be based upon its control over the work that caused the injury. And the parties have not pointed the Court to the anything in CIPS' contract with Baldwin-Ehret-Hill, the

insulation contractor, that resolves that question. Indeed, the plaintiff has not submitted *any* evidence as to CIPS's control over the insulation contractor.

The evidence plaintiff does submit of CIPS's involvement in the construction does not show more than the general oversight that is insufficient as a matter of law to establish a duty. For example, although it had a general safety program and held meetings, there is no evidence in the record that CIPS went to "great lengths" to control safety issues, as did the defendant in *Bokodi*. 728 N.E.2d at 735; *see Aguirre*, 501 F.3d at 830 ("extensive safety oversight"). In *Bokodi*, the general contractor's "constant monitoring" and degree of control over safety was such that it "should have known" about the subcontractor's use of an unsafe manual hoisting process and exercised its authority to halt the work until a safer method was used. 728 N.E.2d at 735-36. Similarly, in *Aguirre*, where the plaintiff was injured in a fall from scaffolding, the general contractor had 23 rules specific to scaffold construction and could have observed any deficiencies in there "many" inspections of scaffolds and required correction of deficiencies. *See* 501 F.3d at 830-31.

Here, the plaintiff's general evidence that CIPS stayed informed about safety issues is not evidence that it had the kind of detailed protocol and day-to-control that precluded summary judgment in *Bokodi* and *Aguirre*. The record does not contain evidence that Ameren had the ability to control the methods by which the insulation contractor handled the asbestos-containing material, or to direct the employees of other subcontractors to observe segregation or safety measures. There is no evidence that CIPS exercised safety oversight in a way that "affected the means and methods by which [subcontractors] sought to insure the safety" of their own employees. *See Aguirre*, 501 F.3d at 831; *Gregory*, 892 N.E. 2d at 576 ("Only if such a safety program sufficiently affected the subcontractor's employees' means and methods of doing their

work would the program possibly bring the owner within the ambit of the retained control exception."); *Fris*, 627 N.E. 2d at 1270 ("general authority" to require that work be done in a safe manner "cannot be viewed as creating such a right of supervision as to have prevented [a subcontractor] from doing routine work in its own way").

The Court also finds this case distinguishable from McConnell v. Freeman United Coal Co., in which the court denied summary judgment on this issue of retained control because there was evidence that the owner's employees were frequently on-site and in contact with the contractor's employees, and "it [was] not clear what effect defendant's employees' communications with [the contractor's] supervisors carried." 555 N.E.2d 993, 997 (Ill. App. Ct. 1990). Here there is no question that CIPS had supervisory plant employees on-site throughout the construction of Coffeen Unit 1. But the testimony is that they were there to inspect progress or receive reports on progress and safety. This is oversight; it is not evidence of control over the methods and manner in which the contractors performed their work.³ In McConnell, by contrast the level of control exercised by the mine owner over the contractor's work extended to instructing the contractor's foreman on a daily basis about where to place materials and where work was to be done. See 555 N.E. 2d at 996. And this evidence pertained to the mine owner's control over the contractor whose activity caused the plaintiff's injury, unlike in this case, where the plaintiff has not adduced any evidence of CIPS's relationship to the insulation subcontractor. Exercising the general supervisory authority over contractors, such as that CIPS exercised when its employees monitored the progress of construction or coordinated work among subcontractors, does not amount controlling the manner in which work is performed. See Gregory, 892 N.E. 2d

³ The plaintiff does submit some evidence regarding CIPS's participation in meetings with the boiler's chemical cleaner, but there is nothing to suggest that Stanley's injury had anything at all do with the chemical cleaning of the boiler.

at 574 ("while it may be true that Mobil had the general right to stop work, monitor its completion and control access to the site, these were simply general rights it had as the ultimate employer on the construction project"); *Kotecki v. Walsk Constr. Co.*, 776 N.E. 2d 774, 778 (III. App. Ct. 2002) ("Plaintiff points to no facts to show that Walsh and Home Depot retained an amount of supervision such that plaintiff, a painting subcontractor, was not free to complete the work in his own way."); *Bieruta v. Klein Creek Corp.*, 770 N.E.2d 1175, 1181 (III. App. Ct. 2002) (no evidence that general contractor "exerted any control over the mass excavation of the townhouse lots" or "did anything more than tell [subcontractor] which lots to excavate and for what purpose; no evidence that subcontractor "was not entirely free to perform the work in its own way").

The Court can find no authority under Illinois law to suggest that the presence of the plant owner's employees on site, and their oversight of the progress of the work under the specifications in the construction contracts, is sufficient to amount to control over the operative details of the work. Therefore, the plaintiff's evidence does not create a genuine issue of material fact regarding whether Ameren (CIPS) retained control within the meaning of § 414 of the Restatement. Therefore, as a matter of law, Ameren did not owe a duty to Stanley under the retained control exception to the limited liability of an employer of independent contractors.

2. Premises Liability

Alternatively, Plaintiff seeks to hold Ameren liable as a property owner. Under Illinois law, premises liability and retention of control are distinct theories of liability, and are not mutually exclusive. *See Clifford v. Wharton Business Group, LLC*, 817 N.E.2d 1207, 1214 (Ill. App. Ct. 2004) ("the duty of reasonable care imposed on a general contractor as the owner or possessor of the premises is independent of its duty to exercise reasonable care where it retains

control of work entrusted to an independent contractor"). That is not the case in all states (including Iowa, as will be seen). *See, e.g., Kinsman v. Unocal Corp.*, 123 P.3d 931, 940 (Cal. 2005) (imposing a hybrid of sections 414 and 343 of the Restatement for cases in which the hirer of the contractor is also the premises owner).

A claim of premises liability is a negligence claim, requiring the plaintiff to prove a duty owed by the defendant to the plaintiff, a breach of that duty, and an injury proximately caused by that breach. *Nelson v. Aurora Equipment Co.*, 909 N.E.2d 931, 934 (III. App. Ct. 2009). Illinois has abolished by statute the common-law distinction formerly made between duties owed by a property owner to invitees as opposed to licensees or trespassers. *See* Premises Liability Act, 740 ILCS 130/2. However, the events in this case predate the Premises Liability Act, which is not retroactive. The common-law distinction therefore applies. Unquestionably, Stanley was an invitee, and Illinois has adopted section 343 of the Restatement as it applies to the duty of a landowner to invitees. *LaFever v. Kemlite Co., a Div. of Dyrotech Industries, Inc.*, 706 N.E.2d 441, 447 (III. 1998).

At common law, a premises owner owes to invitees a duty to "exercise reasonable care to maintain [the] premises in a reasonably safe condition for use by the invitees." *Ward v. K Mart Corp.*, 554 N.E.2d 223, 227 (III. 1990); *see* Restatement (Second) of Torts § 343. If a premises owner chose to maintain a dangerous condition on the premises, an adequate warning to invitees would suffice to render the condition "reasonably safe." *Ward*, 554 N.E. 2d at 227. A landowner is liable for physical harm caused to invitees by a condition on the land if the owner "(1) knows or should know of the condition and that it presents an unreasonable risk of harm to such invitees; (2) should expect that invitees will not discover the danger or protect themselves against

it; and (3) fails to exercise reasonable care to protect invitees against the danger." *Ward*, 554 N.E. 2d at 229 (citing Restatement (Second) of Torts § 343 (1965)).

Here, Ameren contends that it cannot be held liable on a premises liability theory because its duties extend only to "conditions on the land," which do not include the presence of asbestoscontaining insulation. Ameren does not attempt to set forth any definition of a "condition on land," but relies on *Recio v. GR-MHR Corp.*, 851 N.E.2d 106, 119-120 (Ill. App. Ct. 2006), which held that premises liability was not the appropriate theory to apply when the plaintiff's injuries allegedly were caused by an unsafe work practice—there, roofers carrying bundles of shingles up a ladder. According to Ameren, its duties as landowner are not implicated here, either, because "the source of Decedent's injury was the manner and method in which the contractors CIPS hired to construct Coffeen Unit 1 performed their work." Mem., Dkt. # 265 at 7; Reply, Dkt. # 288 at 4. Plaintiff argues in response that the complaint alleges an unsafe condition on the land: "airborne dust containing asbestos insulation fibers released during the process of applying and removing asbestos containing [insulation]."

The Court finds this case distinguishable from *Recio*, the sole authority on which Ameren relies. In that case, the plaintiff did not allege that the shingles, the ladder, or indeed, any facet of the construction site was itself dangerous; instead, she contended that the premises owners had a duty to prevent or remedy the dangerous way in which the roofing subcontractor chose to carry shingles to the roof. By contrast, the presence of asbestos-containing insulation and asbestos dust was a physical feature of the construction site. But that still does not entirely answer the question whether it was a "condition on land."

It is clear that, under Illinois law, not everything located on a property is a "condition on the land." *See, e.g., Gregory*, 892 N.E.2d at 577 (asbestos blankets and gloves were items

provided at refinery and cannot be said to be a condition on the land of the refinery); *Quinton v. Kuffer*, 582 N.E. 2d 296 (Ill. App. Ct. 1991) (drum that exploded and caused injury not "condition on the land" even though drum was located on defendant's property). But neither must something be a permanent fixture or an inherent feature of the land to be a "condition." *See*, *e.g., LaFever*, 706 N.E.2d at 448 (fiberglass edge trim); *Deibert v. Bauer Bros. Const. Co., Inc.*, 566 N.E.2d 239, 243 (Ill. 1990) (tire rut).

Surprisingly, the Court can find (and the plaintiff has identified) no Illinois case directly holding that asbestos dust—as opposed to the asbestos-containing safety gear in *Gregory*—is or is not a "condition on land." In *Nelson*, the court assumed, without discussion, that a premises owner did not owe a duty to the family members of a worker who tracked asbestos dust home on his clothes, the Illinois Appellate Court stated: "While Eva is alleged to have come into contact with the asbestos fibers and dust on Vernon's and John's work clothes, those fibers and dust were no longer a condition on Aurora's premises." 909 N.E.2d at 935. The clear import is that before its departure on the clothing of invitees, the dust had been a condition of the landowner's premises, but the court did not discuss that question directly. At least one court applying Illinois law has imposed a duty on a premises owner to warn of or protect against dangers from asbestos exposure. See Krik v. BP America, Inc., MDL No. 875, 2012 WL 2918745 (E.D. Pa. May 16, 2012) (duty was owed to asbestos-removal contractor and "open and obvious" exception did not apply). The same duty has been imposed under the common law of other states that have adopted § 343 of the Restatement. See Arnold v. Saberhagen Holdings, Inc., 240 P.3d 162, 172 (Wash. Ct. App. 2010) ("Asbestos was a regular presence at the shipyard and is thus properly considered a 'condition on the land.'"); Gutteridge v. A.P. Green Services, Inc., 804 A.2d 643, 660 (Pa. Superior Ct. 2002) ("Appellant averred facts sufficient to place into material dispute the question

of whether PECO, in its capacity as landowner and not employer, violated its duty to Mr. Gutteridge, a business invitee, because it possessed superior knowledge concerning the hazards posed by invisible asbestos contamination.")

The Court finds these authorities to be persuasive and, coupled with the Court's conclusion, *infra*, that insulation is an improvement to real property, they warrant rejection of Ameren's argument. The presence of asbestos dust is a "condition on land" within the meaning of Illinois law as applied to the duties of a premises owner to an invitee. The dust was a physical feature of the property that was continuously present. Therefore, Ameren is not entitled to judgment as a matter of law based on the absence of a duty as premises owner.

B. Defendant MidAmerican

The other power plant owner remaining as a defendant is MidAmerican, which, like Ameren, moves for summary judgment on the grounds that it owed no duty to Stanley. MidAmerican and Stanley talk past each other in their briefs; while MidAmerican examines the issue of duty through the lens of Restatement §§ 413 and 414—duties owed by the employer of independent contractors—Plaintiff contends that MidAmerican owed Staley, an invitee, a duty in its capacity "as a the possessor of the properties" where the exposure occurred. Stanley argues that as premises owner, MidAmerican owed a duty to protect invitees against, or warn them of, the dusty conditions on site.

Iowa law applies this claim. In Iowa "employers of independent contractors do not owe a general duty of due care" and instead "owe only a limited duty as described in Restatement (Second) of Torts section 413." *McCormick v. Nikkel & Associates, Inc.*, 819 N.W. 2d 368, 371 (Ia. 2012); *Van Fossen v. MidAmerican Energy Co*, 777 N.W. 2d 689, 696 (Ia. 2009) ("Instead of the broad general duty of care . . . , employers of independent contractors owe only the limited

duty prescribed in Restatement (Second) section 413"). Section 413 of the restatement limits the affirmative duties of the employer of the independent contractor to situations in which the work carries "a peculiar unreasonable risk of physical harm." It is true, as Plaintiff points out, that *Van Fossen* established this rule first in the context of duties owed to household members of workers exposed to asbestos, whereas here, Stanley was present on the worksite. But in *McCormick*, the Iowa Supreme Court clarified that *Van Fossen* "illustrated *one example* where the relationship between the parties resulted in no general duty of reasonable care," 819 N.W. 2d at 371 (emphasis added), and extracted the general principle that the general duty of care does not apply to an employer of independent contractors. That principle remains subject to the exception for retention of control---section 414 of the Restatement---because the policy that motivates the scope of the duty is that "the party in control of the work site is best positioned to take precautions to identify risks and take measures to improve safety." *See McCormick*, 819 N.W. 2d at 374. Thus, the duty of care applies to any portion of the work over which the employer retains control despite hiring subcontractors.

Plaintiff contends that there is sufficient evidence of retained control by MidAmerican—that is, by its predecessors IPL and IPS—to preclude summary judgment on the issue of duty. On this score, the Court disagrees that there is sufficient evidence from which a jury could conclude that either IPL or IPS retained sufficient control over the work sites to establish a duty to warn about or protect against the danger of asbestos dust. The evidence of presence on the job sites falls short of establishing the degree of day-to-day control over the subcontractors' methods of work that is required by 414 comment c. "The employer's retention of the right to inspect the quality of the operation and of control over the work to the extent necessary to implement that

right will not give rise to a legal duty." *Hoffnagle v. McDonald's Corp.*, 522 N.W.2d 808, 813 (Ia. 1994).

As to DPS-2, the primary evidence of "control" is Stanley's conclusory testimony that IPL "retained control" of the project. Stanley's stated opinion regarding who "retained control" does not establish that IPL controlled the operative details of the subcontractors' work so as to be subject to a duty under Iowa law.. MidAmerican states that Stanley gave this opinion in his capacity "as an experienced engineer" who "understood hierarchy on job sites." Mem. at 3. But Stanley is not an expert witness in this case, and the only facts he provided from his personal observation—that IPL personnel were present on the job site—do not, as a matter of law, establish retained control. As to Neal-1, Plaintiff's primary evidence is witness testimony that IPS employees were on site at Neal-1 during construction and were "running" and "maintaining" the plant. Even if they were "running" the power plant operation, this is not evidence that IPS retained control over the manner in which its construction contractors performed their work. And Stanley himself believed that the general contractor, Ebsaco, was "in charge" of the Neal-1 job site. With this scant evidence, Plaintiff cannot meet her burden to prove that MidAmerican owed a duty to warn or protect Stanley against the asbestos at the construction site. There is simply no evidence with respect to MidAmerican's predecessors' control over the "operative" details and work methods of the insulation contractors or the safety protocol used by other subcontractors who encountered asbestos dust that is required for the retained control exception to apply, particularly where it is undisputed that MidAmerican hired a general contractor to manage the entire construction.

C. Defendant EECI

EECI, the successor to Ebasco, the general contractor for MidAmerican's Neal-1 plant, also moves for summary judgment on the issue of duty of care. Like MidAmerican, EECI contends that it had only the limited duty of an employer of independent contractors, and that it did not retain control over the methods by which the subcontractor performed their work. EECI, like MidAmerican, is not held to a general standard of reasonable care; its liability is limited as the employer of independent contractors, unless the by-now familiar retention of control exception applies.

EECI contends that it did not owe a duty because it hired highly specialized subcontractors who controlled the manner, method, and means of the work performed by their employees, and it did not exercise control over their day-to-day operations. Plaintiff, on the other hand, contends that EECI had complete control over the construction project through its construction manager, construction superintendent, and other supervisory personnel. Because EECI planned the project, created specifications, coordinated schedules, managed conflicts between subcontractors, and had overall responsibility for safety on the job site, Plaintiff argues, EECI's retained control was such that it had a duty despite its hiring of independent subcontractors to perform the work.

Even viewing the evidence in the light most favorable to the plaintiff, the Court concludes that there is not a genuine issue of material fact regarding whether EECI retained control over the manner and method of the subcontractors' work. This is the minimum level of direction and control that is required for the retained control doctrine to apply. *See Van Fossen*, 777 N.W.2d at 697 ("Under the retained control standard, one who employs an independent contractor is not liable unless he retains control of the contractor's day-to-day operations");

Robinson v. Poured Walls of Iowa, Inc., 553 N.W.2d 873, 874 (Ia. 1996) (independent contractor controlled work in excavating a clogged sewer pipe installed by the defendant); Downs v. A & H Constr., Ltd., 481 N.W.2d 520, 523–25 (Ia. 1992) (contractor owed no duty to employee of subcontractor injured by unsafe scaffolding because subcontractor controlled how the scaffolding was erected). See also Restatement (Second) of Torts 414, cmt. (c) ("There must be such a retention of a right of supervision that the contractor is not entirely free to do the work in his own way.").

The parties do not dispute that there was a contract between EECI and MidAmerican defining EECI's role as general contractor; unfortunately, no party was able to produce that contract for the record. Nevertheless, there is sufficient testimony and other evidence, including the Final Construction Reports, from which it could be inferred that EECI had general control over the entire project, including setting forth specifications and ensuring the subcontractors' compliance with them. This is not enough, however, to show that there was any control over how the contractors did their work; that is, there is no evidence of "day to day" control of the methods and operative details of the subcontractor's work. See Restatement (Second) of Torts 414, cmt. (c) ("It is not enough that he has merely a general right to order the work stopped or resumed, to inspect its progress or to receive reports, to make suggestions or recommendations which need not necessarily be followed, or to prescribe alterations and deviations."). In fact, Plaintiff has not pointed the Court to any evidence of Ebasco's relationship to Owens-Corning or any other subcontractor that provided and installed the thermal insulation at Neal-1 from which the Court could conclude that Ebasco, rather than the subcontractor, controlled the details of the work or that the subcontractor was not free to do the work its own way.

Therefore, there is no evidence that contradicts the testimony of EECI's corporate representative that its practice was to entrust the details of work to the experts—the specialized contractors. Moreover, although neither party set forth much evidence regarding the insulation contractors on this project, the evidence with respect to another subcontractor—Babcock & Wilcox, Stanley's employer—corroborates this generalized evidence. There is no dispute that Babcock & Wilcox, not Ebasco, supervised and controlled Peter Stanley's work. Although this fact is not conclusive as to Ebasco's relationship with other subcontractors, it is further evidence that the day-to-day work of the subcontractors was not directed by Ebasco.

What of the safety meetings? There is evidence that Ebasco's construction superintendent was required to be informed about all safety issues at the weekly meeting, which is some evidence of a contractual duty over workers' safety. Where a general contractor has assumed that kind of duty, its liability is non-delegable to subcontractors and is therefore another exception to the general rule of limited liability. *See Kragel v. Wal-Mart Stores, Inc.*, 537 N.W.2d 699, 704 (Ia. 1995); Restatement (Second) of Torts § 425. However, that is not what plaintiff has argued here; has argued that Ebasco's duty arose from its control over the project. On that score, she has not produced evidence that Ebasco directed the manner in which the insulation was cut and installed at Neal-1; indeed, there is little specific evidence in the record about how the installation was done, and by whom, at this particular job site.

Plaintiff has not provided sufficient evidence from which it can reasonably be concluded that control exercised by Ebasco exceeded general oversight—the control with creating specifications and ensuring compliance with them. Iowa law is clear that there is no duty unless the control reaches the actual direction of the manner in which subcontractors' work is

⁴ Perhaps this theory was not invoked because the parties have not put forth evidence that in 1964, asbestos dust was viewed as a "safety issue."

performed. In light of the substantial control required, plaintiff has not produced evidence that Ebasco was responsible for the manner in which insulation was installed. Accordingly, as a matter of law, Plaintiff did not establish a legal duty on the part of EEIC.

II. Statute of Repose

The two Illinois defendants—Ameren and Sargent & Lundy—argue that they are entitled to judgment as a matter of law because the 10-year Construction Statute of Repose bars the claims against them because they stem from injuries incurred during construction projects dating back to the 1960s. Plaintiff argues that the statute of repose does not apply because asbestoscontaining insulation is not an "improvement to real property" as required under the statute.

The construction statute of repose, 735 ILCS 5/13-214(b), provides in relevant part: "No action based upon tort, contract or otherwise may be brought against any person for an act or omission of such person in the design, planning, supervision, observation or management of construction, or construction of an improvement to real property after 10 years have elapsed from the time of such act or omission." The purpose of the statute is to "insulat[e] all participants in the construction process from the onerous task of defending against stale claims." *MBA Enterprises, Inc. v. N. Ill. Gas Co.*, 717 N.E.2d 849, 852 (Ill. App. Ct. 1999). The statute of repose applies when: "(1) the item at issue is an improvement to real property; and (2) the defendant's actions fall within the scope of the activities enumerated in the statute." *Id.*

The second prong is not at issue here. The statute of repose protects any party, regardless of status, if its engagement in an enumerated construction-related activity is the sole basis of a particular claim; however, acts unrelated to the initial construction of the improvement, such as

⁵ The statute of repose was enacted in 1982 but applies retroactively to construction that occurred before that date. *See Illinois Masonic Medical Center v. A C & S*, 640 N.E.2d 31, 32 (Ill. App. Ct. 1994).

the sale and distribution of improvements to real property, are not protected. Id. Installing insulation is a "protected activity" under the Illinois statute of repose. King v. Paul J. Krez Co., 752 N.E.2d 605, 609 (III. Ct. App. 2001); Risch v. Pul J. Krez. Co., 678 N.E.2d 44 (III. App. Ct. 1997); see also Krueger v. A.P. Green Refractories Co., N.E.2d 947, 950 (Ill. Ct. App. 1996) ("Although section 13-214(b) clearly applies to a party who installs an improvement, sales and distribution are not among the activities protected by the statute."). Under the language of the statute, therefore, anyone who designs, plans, supervises, observes, or manages that activity also is covered by the statute of repose. See § 13-214(b); Wright v. Board of Educ. of City of Chicago, 781 N.E.2d 386, 391 (Ill. App. Ct. 2002) (section 13–214(b) applies if "the claiming party participate[d] in the design, planning, supervision, observation, or management of construction, or construction of an improvement"); Illinois Masonic Medical Center v. A C & S, 640 N.E.2d 31, 33 (Ill. App. Ct. 1994) ("Federal and State courts have determined the General Assembly enacted section 13–214(b) to protect architectural engineering firms, general contractors and subcontractors from open-ended tort liability"). No question has been raised here regarding whether the installation of insulation is protected as to defendants Ameren and Sargent & Lundy.

Therefore, the crucial question is whether installing the insulation was improving real property under § 13-214(b). In *St. Louis v. Rockwell Graphic Systems, Inc.*, 605 N.E.2d 555 (Ill. 1992), the Illinois Supreme Court identified four relevant criteria for assessing whether something is an improvement to real property within the meaning of the statute of repose. *Id.* at 556-57; *see Wright*, 781 N.E.2d at 391. These are: "whether the addition was meant to be permanent or temporary, whether it became an integral component of the overall system, whether the value of the property was increased, and whether the use of the property was enhanced." *St. Louis*, 605 N.E.2d at 556.

Surprisingly, whether asbestos-containing insulation meets these criteria has not been settled under Illinois law. Sargent & Lundy has shown that in other cases, it has convinced some Illinois trial courts that the insulation is an improvement, but no higher court has yet made that determination. The cases that apply the statute of repose to the installation of asbestos-containing insulation do not decide whether it is an "improvement to real property" because that argument was not made. See, e.g., Boldini v. Owens Corning, 744 N.E. 2d 370, 373 (Ill. App. Ct. 2001) (noting plaintiff's failure to challenge on appeal the trial court's decision that asbestos-containing insulation was an improvement to real property); Risch, 678 N.E.2d at 46 (plaintiffs waived argument that installation of asbestos products was not improvement to real property). In Krueger, where the court held that the mere sale of asbestos products is not covered under the statute of repose, the court discussed whether asbestos-containing insulation can be an improvement to real property, and expressly rejected arguments that under Illinois law, an "improvement" is synonymous with a "fixture," and further that insulation's status as a "product" for purposes of products liability claims forecloses it from also being an "improvement." 669 N.E. 2d at 951. Despite rejecting those arguments, the court did not hold that the insulation is an improvement to real property, leaving it to the trial court on remand to apply the relevant analysis in the first instance, after developing the record. See id.

In support of the argument that thermal insulation is not an improvement to real property, the plaintiff relies heavily on *State Farm Mutual Auto Ins. Co. v. W.R. Grace & Co.*, 24 F.3d 955 (7th Cir. 1994), which held that the statute of repose did not apply to the manufacturer of sprayon asbestos insulation, because it did not perform any of the protected activities listed in the statute. *Id.* at 957. The court held that a manufacturer is not a designer or a builder, and moreover, that none of the activities for which the manufacturer could have been found liable—

the design of the insulation to include asbestos, the failure to test, and the failure to warn about it—were construction-related, and therefore they were not protected. The court also addressed whether the spray-on insulation was an "improvement" to real property, and concluded that to say so was to "do violence to the ordinary meaning of the word." *Id.* at 958. Admitting that the Illinois Supreme Court's broad definition of improvement technically could include the spray, the court nevertheless held that as "a standard product incorporated into the improvement, or into the underlying building being improved," the spray insulation was not itself an improvement to real property. *Id.* at 958. But in *Krueger*, the Illinois Appellate Court rejected the Seventh Circuit's holding, noting that it had failed to apply the *St. Louis* criteria in making its decision. *See* 669 N.E. 2d at 951 ("we decline to follow the *State Farm* court's conclusion that asbestos products incorporated into a building are not improvements to real property"). The *State Farm* case is therefore not a trump card for the plaintiff.

Thus it is left to this Court to apply the *St. Louis* criteria and determine whether asbestoscontaining thermal insulation is an improvement to real property within the meaning of §13-214(b). *See Krueger*, 669 N.E.2d at 951 (instructing that "the trial court must determine whether the asbestos products are improvements by focusing on the factors enumerated by the supreme court" in *St Louis*). On this record, it is. The record shows that power plants are designed to include thermal insulation at all times and would not operate without it. Thermal insulation makes it possible for workers to be present inside the plant and for equipment to survive in the presence of extreme heat. Moreover, not insulating would be extremely inefficient from both an economic standpoint and from an energy-production standpoint. These facts satisfy all of the *St. Louis* criteria: the insulation is meant to be permanent; it becomes an integral component of the overall system; and it increases the value of the property and enhances its use. *See, e.g., Wright*,

781 N.E. 2d at 393 (statute of repose applied where plaintiff tripped on concrete step that was part of original construction of building); *Garner v. Kinnear Mfg. Co.*, 37 F.3d 263, 268 (7th Cir. 1993) (applying *St. Louis* factors and concluding that mounting plate and garage door assembly were appropriately classified as improvement to realty).

And that is viewing the "improvement" question at the micro level, focusing on individual components of the construction rather than the larger system, that is, the from-scratch construction of a new power plant, which is undoubtedly an "improvement to real property." The defendants persuasively argue that it is the macro-level inquiry that counts for purposes of the statute of repose. That would certainly be more consistent with the definition of "improvement": a "valuable addition made to property (usually real estate) or an amelioration in its condition, amounting to more than mere repairs or replacement, costing labor or capital, and intended to enhance its value, beauty or utility or to adapt it for new or further purposes. Generally, buildings." BLACK'S LAW DICTIONARY 682 (5th ed. 1979). This definition has been cited favorably by the Illinois courts, including in the seminal St. Louis decision. Moreover, the Seventh Circuit has emphasized that "in making an improvement determination, courts must consider the entire system that the defendant helped to design or construct and not merely the component that may have caused the injury." Garner, 37 F.3d at 267; Herriott v. Allied Signal, Inc., 998 F.2d 487, 490 (7th Cir. 1993); (same, citing cases); Hilliard v. Lummus Co., 834 F.2d 1352, 1356 (7th Cir. 1987) (To "artificially extract each component from an improvement to real property and view it in isolation would be an unrealistic and impractical method of determining what is an improvement to real property"). Under this broader view, because the insulation is an "essential or integral part of the improvement to which it belongs, then it is itself an improvement to real property." *See Hilliard*, 834 F.2d at 1356; *Hausman v. Monarch Mach. Tool* Co., 997 F.2d 351, 355 (7th Cir. 1993).

Plaintiff's arguments that the insulation is not an improvement to real property (whether in isolation or part of a larger system) are unpersuasive. She contends that the insulation is not an "improvement" because a power plant can produce power without insulated pipes and because insulation wears out over time and needs to be replaced. Although plaintiff's expert opines that from a technical standpoint thermal insulation is not required for a power plant to produce energy, Plaintiff does not dispute key facts that show it is a practical necessity for the operation of the plant and that no power plant is designed or constructed without thermal insulation. Therefore, she has not refuted the evidence that the insulation is an integral component of a power plant. Moreover, on the issue of permanence, the mere fact that insulation needs to be maintained and replaced over time does not make it a less permanent feature of a power plant. See Hilliard, 834 F.2t at 1355 ("Taken to its logical conclusion, Hilliard's argument would mean that nothing could be considered an 'improvement to real property' if there were any possibility that the structure might be redesigned or rebuilt at any time, no matter how far into the future. We do not think this is a reasonable interpretation of the statutory language."). The power plants do not operate without the thermal insulation, even if it is subject to repair or replacement. And the Illinois courts have been clear that an improvement is not synonymous with a "fixture," further reducing the persuasiveness of the plaintiff's argument that the theoretical need to replace it occasionally prevents it from being an improvement.

Because the thermal insulation is incorporated into and becomes part of the plant, allowing it functions properly and operate efficiently and safely, it is inseparable from the improvement to real property. *See St. Louis*, 605 N.E. 2d at 556 (explaining that unlike a fixture,

"[a]n improvement, on the other hand, after being installed, may not have an identity separate from the overall system or building in which it is located."). Therefore, the plaintiff's claims

against Sargent & Lundy and Ameren relating to the installation of insulation during the plants'

construction are covered under, and barred by, the statute of repose.⁶

* * *

Although it finds that Ameren owed Stanley a duty of care as premises owner, the claims against it are barred by the statute of repose, as are the claims against Sargent & Lundy. Because the statute of repose bars the claims against Sargent & Lundy, the Court does not consider its further argument that the Plaintiff has failed to marshal sufficient evidence of the standard of care applicable to design professionals. And, having ruled in MidAmerican's favor on the issue of duty, the Court does not address MidAmerican's additional contention that Plaintiff has insufficient evidence of causation as a matter of law. As to defendant EECI, the Court concludes

that there is no genuine issue of material fact regarding EECl's retention of control. Accordingly,

all four defendants' motions for summary judgment are granted.

Date: October 22, 2013

John J. Tharp, Jr.

United States District Judge

⁶ Stanley's injuries were incurred during the initial construction phase of the power plants. Presumably it is for that reason that Plaintiff has not argued or attempted to prove that there was an ongoing duty of maintenance as to the thermal insulation, in which case the statute of repose would not apply. *See Ryan v. Commonwealth Edison Co.*, 885 N.E.2d 544, 552-53 (Ill. App. Ct. 2008) (statute of repose does not apply where there is ongoing duty to maintain or inspect condition); *Wright*, 781 N.E. 2d at 393 (distinguishing cases in which there was a duty of ongoing maintenance related to the presence of a "dangerous commodity"—explosive gasses).